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[s 14](#_Toc500336885)

## KPI笔记

### KPI Test Case Number

|  |  |  |  |
| --- | --- | --- | --- |
|  | 单载波 | 双载波 | 三载波 |
| DL (64QAM) | 15.10 | 25.10 | 26.10 |
| DL (256QAM) | 15.12 | 25.12 | 26.12 |
| UL (16QAM) | 15.21 | 25.21 | 26.21 |
| DL (64QAM) + UL(16QAM) | 15.31 | 25.31 | 26.31?? |

### 26.11设置

Etu70, 36.101

snr\_range\_start = 35, DL 256QAM

snr\_range\_start = 30, DL OTHERS

### 25.21设置

INFRA\_BEIZTE\_25.21\_BW2020\_27\_Static\_Sweep-60\_-80-2-110\_UDP\_TDD41TDD41

INFRA\_BEIZTE\_25.21\_BW2020\_27\_EVA70\_Lo\_Sweep-60\_-80-2-110\_UDP\_TDD41TDD41

#####################################################

[INFRA\_BEIZTE\_15.21\_BW20\_27\_Static\_Sweep-60\_-80-2-110\_UDP\_TDD41]

#####################################################

########## mandatory parameters #####################

tc\_group = KPI\_eNodeB\_tputSweeps

iteration\_timeout = 200

########## optional parameters ######################

cell2\_rat = TDD

cell2\_band = 39

cell2\_bandwidth = 20MHz

cell2\_freq\_dl = 1890

cell1\_rat = TDD

cell1\_band = 41

cell1\_bandwidth = 40MHz

cell1\_freq\_dl = 2595

#ue\_power\_received = -44 #XMM7560 -44--->>-85dBm, ICE-45--->>-85dBm，748 -46--->>-85dBm

fading\_awgn\_ul=-67

sweeps\_type = rsrp

pl\_range\_start = 0

pl\_range\_stop = -30

pl\_range\_step = -2

do\_only\_short\_sweep\_range = False

short\_sweep\_range = 0, 0, 0, 0

fading\_profile = 2x2\_Static

fading\_profile\_cell2 = 2x2\_Static

transfer\_type = UDP

transfer\_direction = UL

transfer\_measurement\_time = 20

udp\_bandwidth\_ul = 60M

udp\_packet\_size = 1410

### DL 256QAM设置

Etu70, 36.101

snr\_range\_start = 35, DL 256QAM

snr\_range\_start = 30, DL OTHERS

### 基站设置

//STEP 1------------------------

NETWORK: INTERBAND, DL2CA,TDD27

D38/D41,(CELL D)

BAND39

//STEP 1------------------------

184CLIENT, admin, " ", D41-D39, 修改区$0, 无线参数，TD-LTE，

//TDD27配置(TDD Config=2, DSUDD; special subframe config=7, DwPTS,GP,UpTPS=5:1:1)

E-UTRAN TDD小区(双击)：

2984基带板标识；PCI16接控制UE，不要操作；

中心频率

（菜单）配置管理/配置数据批量修改(便于批量修改)

上下行子帧配置，同一RU需要一起修改，然后保存（否则不生效）

\*\*\*D39只能用TDD26

//-----------关断小区----------------

视图/动态管理/查询小区状态/执行，then 选择"立即关断小区"，需要执行

//----------DL2CA配置--------------

1. 设置小区邻区关系：(菜单)配置管理/制式特色功能/邻区调整工具

源eNB，邻接eNB，查询，删除对应17/14相关的连接关系，直接关闭（不需保存），选择对应小区14-17，添加

//下一步：CA配置，

配置管理/制式特色功能/小区协同管理

查询，选中14，组合17

//同步基站

配置管理/数据同步/同步

//解关断小区

TD-LTE/E-UTRAN TDD小区/解关断小区，需要执行

-----------------------------------------------------

//小区，邻区，配置CA

//64QAM, 256QAM

（菜单）配置管理->配置数据批量修改(便于修改),搜索256QAM，保存

//修改CA连接方式(测量 or 同覆盖)

（菜单）配置管理/无线参数/TD-LTE/E-UTRAN邻接关系/服务小区与E-UTRAN系统内邻区关系

### AT Command

7560 erase build/re-flash

at@usbmwtestfw:usb\_profile\_set\_nvm\_configuration(USBPOW\_ID\_DEFAULT,"MODEM;2ACM;3NCM;SS","NO\_SS",0x8087,"0000",0x0965,"0000")

at+xsio=1

at+xsystrace=pndefault,"proute=oct"

at+xsystrace=1,,"lte\_l1\_sw=(ALL,DEBUG,ALL,ALL)"

at+xsystrace=1,"rpcu\_sw=oct"

AT+XSYSTRACE=cnKeep,,"rpcu\_sw=pct:gn(rau)=nml,gn(rac)=dbg"

at@nvm:dyn\_cps.instance[0].umts\_duplexing\_mode =1

at@nvm:store\_nvm(dyn\_cps)

### 26.11设置

Etu70, 36.101

### 26.11设置

Etu70, 36.101

### Ch05： Pandas

obj = Series([list])生成带标号（索引）的Series

1. obj.values, obj.index，求值或索引
2. obj2= Series([4,7,-2,2], index=[‘a’,’b’, ‘f’, ‘d’])，指定索引
3. Series数组可以进行Numpy数组运算
4. obj3=Series(dict)，可以通过字典创建Series
5. obj4 = Series(o\_dict, index = o\_list)，生成以o\_list为索引的数组，值在o\_dict里查找；如果没找到则为NaN。
6. pd.isnull(obj4)和pd.notnull(obj4)可以检测缺失数据

### CDMA 基站建立

1. 购买基站及附件：30dB衰减器，RF cable转接头，铁架，挡板，RRU, BBU, 电源
2. 将RRU/BBU/POWER/SWITCH安装在铁架上
3. 连通Intel-CAICT电信专线(100M带宽for cdma core network)（连接？带宽？稳定性？）
   1. Intel lab switch<->Intel网络管理室 switch<------>CAICT大楼网管switch<->CAICT lab switch
   2. 提前分配IP，使用电脑在intel lab ping通CAICT lab
   3. 使用大数据包ping，查看是否丢包
   4. 通过电脑从CAICT lab拷贝大文件到intel lab，查看网络带宽。
4. 拿到SIM/UIM卡，并对SIM/UIM提前验证。
5. 确认辅料是否到齐。
6. 联系施工队，进行RRU/BBU施工：
   1. 在RRU上增加30dB衰减器
   2. 连通GPS信号
7. 准备FTP Server，送至CAICT
8. 准备MAC/TEST PC/

### 创建大文件dos命令

in command prompt(administrator)

fsutil file createnew 400M.txt 407374182

### 7560 get Trace command Start

from Junjie, it works fine:

at+xsystrace=pndefault,"proute=oct"

at+xsystrace=1,,"lte\_l1\_sw=(ALL,DEBUG,ALL,ALL)"

AT+XSYSTRACE=cnkeep,,"bb\_sw=cdma\_sw:pndebug"

AT+XSYSTRACE=cnkeep,,"bb\_sw=cdma\_dsp:pndebug"

from chenguang, not try yet:

at@usbmwtestfw:usb\_profile\_set\_nvm\_configuration(USBPOW\_ID\_DEFAULT,"MODEM;2ACM;3NCM;SS","OPTION\_USE\_DEFAULT",0,"LVENDOR\_NAME\_USE\_DEFAULT",0,"LPRODUCT\_NAME\_USE\_DEFAULT")

at+xsio=1

### iperf命令

5.0.33.64

10.240.32.200

上行灌包：

server:

iperf -fk -si1 -p5050 -B10.240.32.200 -P1 -w1.0M -u

UE:

iperf -fk -i1 -c 10.240.32.200 -p5050 -P1 -t895 -w2M -u -b3M -l1410 -T1

下行灌包：

UE:

iperf -fk -si1 -p5010 -B10.240.32.136 -P1 -w2M -u

server:

iperf -fk -i1 -c 10.240.32.136 -p5011 -P1 -t1615 -w1.0M -u -b5M -l1410 -T1

----------------------------------------------------------------------------------------------------------------------

eHRPD

上行灌包：

Server:

iperf -fk -si1 -p5050 -B20.20.52.200 -P1 -w1.0M -u

UE:

iperf -fk -i1 -c 20.20.52.200 -p5050 -P1 -t895 -w2M -u -b3M -l1410 -T1

下行灌包：

DL:

UE:

iperf -fk -si1 -p5010 -P1 -w2M -u

Server: (connect server(20.20.52.200) with DUT)

(90M)

iperf -fk -i1 -c 5.0.5.141 -p5010 -P1 -t1615 -w1.0M -u -b90M -l1410 -T1

(50M)

iperf -fk -i1 -c 5.0.5.141 -p5010 -P1 -t1615 -w1.0M -u -b50M -l1410 -T1

(5M)

iperf -fk -i1 -c 5.0.5.141 -p5010 -P1 -t1615 -w1.0M -u -b5M -l1410 -T1

### 上行灌包iperf命令

#1. server

iperf -fk -si1 -p5050 -B20.20.52.200 -P1 -w1.0M -u

#2. DUT, time=180s, 80Mbps

iperf -fk -i1 -c 20.20.52.200 -p5050 -P1 -t180 -w2M -u -b80M -l1410 -T1

#小米xiaomi手机上行灌包命令

adb -d shell su -c /data/data/com.magicandroidapps.iperf/bin/iperf -fk -i1 -c 20.20.52.200 -p5050 -P1 -t180 -w2M -u -b80M -l1410 -T1

### Call Related test cases 注意事项

1. trace\_interval = TRACE\_INTERVAL\_ITERATION
2. catch ctrl-UE trace log, send enable trace commands

s

### Ctrl UE抓log方法

############ Ctrl UE1 ########################

device4\_name = ctrl\_ue

device4\_type = XMMCtrlUE

device4\_logical\_name = CtrlUE1

device4\_at\_port = COM18

######Intel mobile(acm1)

device4\_stt\_remote\_at\_port = COM17

######Intel mobile(acm2)

device4\_stt\_remote\_opc\_port = COM19

device4\_ue\_type = ICE7480

device4\_remote\_pc\_ip = 192.168.1.152

device4\_remote\_pc\_port = 8100

device4\_power\_supply = remote

device4\_power\_supply\_id = 407574

device4\_remote\_tracing\_enabled = True

device4\_stt\_remote\_ip\_port = 5555

device4\_remote\_connected = true

device4\_cell\_connection\_type = direct\_cable

device4\_cell\_rat = TDD

device4\_cell\_band = 39

### EB enable eHRPD

at@nvm:dyn\_cps.instance[0].cdma.cdma\_ehrpd\_mode=1: eHPRD.

### email dashboard

clone

### PPT top blocker issue

Not duplicated,

### F32 Input Properties配置

1: LTE band3 DL Main

2: LTE band3 DL Div

3: LTE band3 UL

4: CDMA PN54 DL Main

5: CDMA PN54 DL DIV

6: CDMA PN54 UL

7: CDMA PN51 DL Main

8: CDMA PN51 DL DIV

9: CDMA PN51 UL

### Trace command

从daniel的表述看，trace命令有变化， 主要是加了一条at@cdd:easyconfig(4)

Trace level用debug 或者 normal应该都可以吧

at+xsystrace=pndefault,"proute=oct"

at@cdd:easyconfig(4)

at+xsystrace=1,,"lte\_l1\_sw=(ALL,DEBUG,ALL,ALL)"

at+xsystrace=1,"rpcu\_sw=oct"

at+xsystrace=cnKeep,,"rpcu\_sw=pct:gn(rau)=nml,gn(rac)=dbg"

AT+XSYSTRACE=cnkeep,,"bb\_sw=cdma\_sw:pndebug"

verified:

AT+XSYSTRACE=cnkeep,,"bb\_sw=cdma\_sw:pndefault"

at+xsystrace=pndefault,"proute=oct"

### Attatch Volte(TDD)

AT+CGDCONT=0,"IPV4V6","zte.com"

at+xicfg=0,1,51,"ims"

at+xireg=1

at+xicfg=0,1,50,1 //自动注册volte

at+cops=0

--

#check if volte enable: 0, 4: enable; 0, 2: disable

at+xireginfo?

### TDD LTE下行DL速率

256QAM, 2-7, TM3, Max = 138Mbps in iperf, STATIC

64QAM, 2-7, TM3, Max = 108Mbps in iperf, STATIC

### FDD LTE上行UL速率

20MHz带宽，上行50Mbps, Static

15MHz带宽，上行38Mbps, Static

### 锁频命令

锁：

at@sic:freq\_lock(0,3,0,1,39292,0xFFFF)

#39292:earfcn

解锁：

at@sic:freq\_lock(0,3,0,0,0,0xFFFF)

### CDMA\_SRLTE MSIM Test bench configuration

CTRL UE:

TDD: band=40, erfcn=39292, pci=, freq=

GSM:

1x:

### lock band命令

AT+XACT=2,,,140

### disable ping of ctrl ue

decomment 4 " setup\_connection" of "\_prepare\_volte\_call"

### Tput测试流程

* + - 1. 确认PAT rsrp功率，初始rsrp=-80
      2. 确认Tc\_Para里，灌包>最大速率+10M
      3. 如果速率大于200M，nand不能抓log。
      4. load static fading profile。confirm: powers are OK, static
      5. CM拨号，iperf灌包。确认是否达到峰值(DL 150Mbps@64QAM, UL50Mbps@16QAM)@20MHz
         1. UL:

client: iperf -fk -i1 -c 20.20.52.200 -p5050 -P1 -t1295 -w2M -u -b50M -l1410 -T1

server: iperf -fk -si1 -p5050 -B20.20.52.200 -P1 -w1.0M –u

* + - * 1. DL

client: iperf -fk -si1 -p5010 -B10.240.32.136 -P1 -w2M –u

server: iperf -fk -i1 -c 5.0.5.141 -p5010 -P1 -t1615 -w1.0M -u -b90M -l1410 -T1

* + - 1. run PAT. Make sure rsrp=-80
         1. run static, SNR=OFF
         2. run Tput Case

### TDD\_1x测试环境操作步骤

TDD

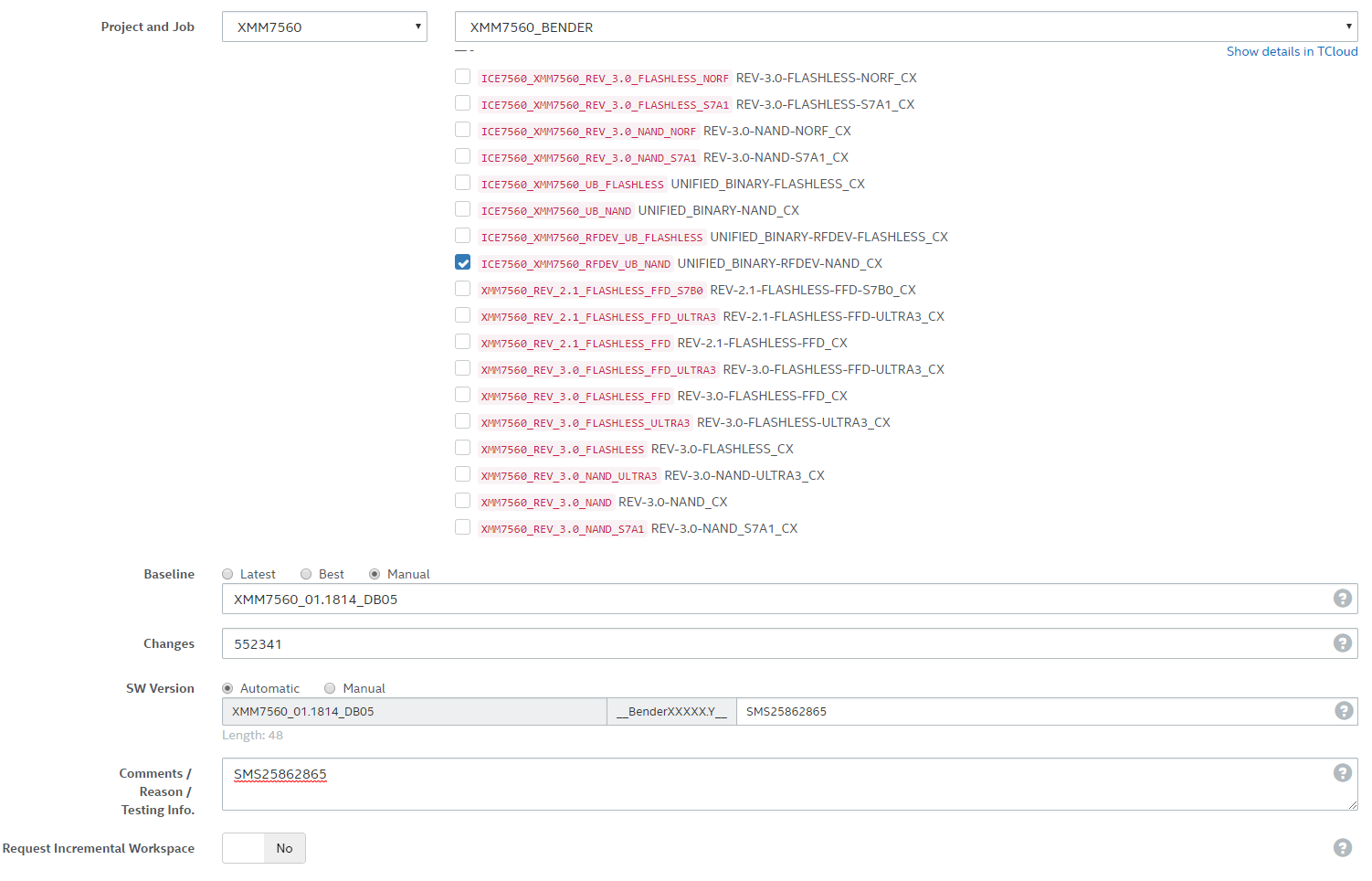
1. 下载版本； 2. 更换DUT SIM, 更换CTRL UE SIM; 3. 更换PAT版本 to 51; 4. 更换ctrl PC socket; 5.手动CM拨号ctrl UE; 6.运行PAT

hybrid call

1. 下载版本； 2. 更换DUT SIM, 更换CTRL UE SIM; 3. 更换PAT版本 to 30; 4. 更换ctrl PC socket; 5.打开Iphone hybrid模式; 6.运行PAT

### How to generate an EB with ticket/gerrit

https://oc6web.intel.com/bender/request



### CSFB AT command

at@nvm:dyn\_cps.instance[0].lte\_caps.csfb.autonom\_return\_from\_2g\_to\_lte=1

at@nvm:dyn\_cps.instance[1].lte\_caps.csfb.autonom\_return\_from\_2g\_to\_lte=1

at@nvm:dyn\_cps.instance[0].lte\_caps.csfb.autonom\_return\_from\_3g\_to\_lte=1

at@nvm:dyn\_cps.instance[1].lte\_caps.csfb.autonom\_return\_from\_3g\_to\_lte=1

at@nvm:dyn\_cps.instance[0].mm.rel\_ps\_conn\_at\_rau\_comp\_on\_csfb\_call\_end=1

at@nvm:dyn\_cps.instance[1].mm.rel\_ps\_conn\_at\_rau\_comp\_on\_csfb\_call\_end=1

at@nvm:store\_nvm(dyn\_cps)

### TPut Test AT command

at@nvm:dyn\_cps.instance[0].eas\_erlc.forced\_status\_report\_params.forced\_status\_report\_feature\_enabled=1

at@nvm:Store\_nvm(dyn\_cps)

Check if it works:

at@nvm:Dyn\_cps.instance[0].eas\_erlc.forced\_status\_report\_params.forced\_status\_report\_feature\_enabled?

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## PAT笔记

### def establish\_and\_verify\_call(self, times=100):

self.fwk.ctrl\_ue\_list

### PAT修改fader上行功率

**From:** Wang, XiaobinX   
**Sent:** Wednesday, January 24, 2018 5:01 PM  
**To:** ICE-KPI-INFRA-BEI-Execution <[ice-kpi-infra-bei-execution@intel.com](mailto:ice-kpi-infra-bei-execution@intel.com)>  
**Cc:** Wang, Chaogang <[chaogang.wang@intel.com](mailto:chaogang.wang@intel.com)>  
**Subject:** PAT中修改Fader中的上行功率

Hi, All,

新PAT中无法修改Fader中的上行功率，王涛有段代码可以修改PAT 控制上行功率：

**在*tc\_lib\_common.py* 文件的 *load\_and\_set\_fading\_profile(self)* 函数里添加下面连段代码:**

* for cell in *self*.tc.cell.keys():

            # set UL input power to the lowest possible value (max. range)

            lower\_limit, upper\_limit = *self*.tc.tc\_lib\_fading.get\_input\_level\_limits\_profile(*self*.tc.cell[cell][*"device\_used"*], direction=*"UL"*)

*self*.tc.tc\_lib\_fading.set\_fader\_input\_level\_ul(*self*.tc.cell[cell][*"device\_used"*],

                                                           ue\_input\_power=lower\_limit)

            # Wang Tao, modify ue\_input\_power from lower\_limit to 15dBm

*self*.tc.tc\_lib\_fading.set\_fader\_input\_level\_ul(*self*.tc.cell[cell][*"device\_used"*],

                                                           ue\_input\_power=*self*.fwk.fader.ue\_input\_power\_level)

* # set the UL window to the expected input power (initial)

            ue\_input\_power\_level = *self*.tc.tc\_lib\_fading.get\_fader\_input\_level\_ul(*self*.tc.cell[cell][*"device\_used"*])

            steps = int(*self*.tc.cell[cell][*"ue\_input\_power\_init"*] - ue\_input\_power\_level) + 3

            # Wang Tao, to make a step 3, 2017.12.08

            steps = -1

            #END

            if (steps != 0):

添加这两段代码后，就会根据rack\_config.py 中的参数：device3\_ue\_input\_power\_level =15来设置上行功率。

Best regards,

Xiaobin(王晓斌)

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## CDMA LOG 分析笔记

### UICC Card

搜索"SI\_CDMA\_\*", param5=0x34, means UICC card; if param5=0x02, it is UIM card. We support UICC card only.

### How CDMA work when power up.

* + - 1. css根据PRL选择band-channel，命令PHY搜网
      2. 找到pilot
      3. 找到SYNC信道，解码SID(system ID，移动业务本地网的号码，每个地级市只有一个SID)、NID(network ID，一个CDMA移动业务本地网中唯一地识别一个网络的号码，每个地级市可能有1到3个NID)，timing。并把SID,NID回传给css验证。
      4. css在prl的‘system table’里搜索“SID match??-> preferred??->priority??”(NID可以任意) 。如果priority=same，且存在priority 更高的(=more)，则根据'system table'里的(Acq)uisition列，检索'Acquisition table'对应的band-channel。重新运行步骤1/2/3/4。
      5. 确定band-channel（SID匹配）后，1x找网成功
      6. 根据‘system table’里‘assign tag’里面的数值，配合'Geo'列(new开始，直到下一个new之前为一个geo)。确定co-located EVDO band index(index@acquisition table = Acq@system table)，然后根据根据'Acq‘数值确定对应band，然后重新搜网并检测SID值。匹配后，完成EVDO找网完成。
      7. 如果当前小区的priority是3(same)，且没有搜索到可用的priority=2(more)的小区；则每3分钟搜索一次priority更高的小区。方法与步骤4相同，即根据Acq列搜索acquisition table

### cdma 1x layer3 states

* + - 1. Power up
      2. Initialization
         1. css select one channel to search
         2. pilot found
         3. sync channel msg acquired
         4. system validated by css, change system time.
      3. idle
         1. paging channel monitoring: slotted mode, slot cycle index, 保存在UIM卡或网络广播，选择较小的；=0, 1.28s; SCI=2, 2.56s in China; 5.12s in US.
         2. respond to mobile dedicated msg(data burst, registration order)
         3. registration: powerup(20s after idle to aovid registration too frequently), power down, timer based, distance based, zone based(sid/nid), parameter change, ordered, implicit(MO/MT)
         4. origination
         5. idle handoff
         6. BSR
         7. act on overhead msg(channel list msg, service redirection msg)
      4. access
         1. get update info
      5. traffic

### cdma 1x MO call setup

MO call flows:

* + - 1. UE->BS: origination msg (access state start)
      2. UE<-BS: channel assigment msg(walsh code in tch)
      3. UE<-BS: all 0 in frames (traffic state start)

(after UE get 2 good frames, in 1s)

* + - 1. UE->BS: reverse link preamble
      2. UE<-BS: ack order (in 2s)
      3. UE->BS: null traffic
      4. UE<-BS: service connect msg (in 5s)
      5. UE->BS: service connect completion msg

(Conversation starts)

* + - 1. release order
      2. release order

Layer3 Time constrains

* + - 1. T41m: 4s. Max time to get Ovhd msg inUpdata Ovhd info state (access state)
      2. Tx Origination based on access procedure, parameters defined in Access CH msg.
      3. T42m: 12s. Layer3 ACK has to arrive. Eg. CAM/ECAM
      4. T50m: 1s. After ECAM, max time to get 2 consecutive good TCH frames.
      5. T51m: 2s. Max time for MS to get BS ACK on RTC preamble
      6. T65m: 5s. Max time for MS to get Service connect message
      7. T55m: 2s. Max time in Release substate

### cdma 1x MO call logs

8409 12:41:21:279> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb308f38, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x325ed0b8b4, CP State=Update Overhead info

8524 , >>> Msg Id=PC - General Page

8538 12:41:21:319> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb308f3a, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x325f2ed030, CP State=Origination Attempt

8596 , <<< Msg Id=AC - Origination

8726 , >>> Msg Id=PC - Access Parameters

8804 , >>> Msg Id=PC - CDMA Channel List

8865 , >>> Msg Id=PC - Extended System Parameters

8905 , >>> Msg Id=PC - Neighbor List

8958 , >>> Msg Id=PC - General Page

9019 , >>> Msg Id=PC - System Parameters

9127 , >>> Msg Id=PC - Access Parameters

9204 , >>> Msg Id=PC - CDMA Channel List

...

11558 12:41:21:979> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb308f5b, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x326539cdc8, CP State=Traffic Channel Initialization

...

12:41:21:980> ETS, Id=CP Trace, TraceId=CP Cmd Mbox, N=0x00000003, SysTime.0=(1x) 0x0dfb308f5b, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32653bf778, Msg Id=Traffic Chan Start

12:41:21:981> ETS, Id=CP Trace, TraceId=CP L1d State, N=0x00000003, SysTime.0=(1x) 0x0dfb308f5b, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32653e9ff4, State=TRAFFIC\_CHANNEL\_SETUP

11883 12:41:22:041> ETS, Id=CP Spy, SpyId=CP Tx DSPM Mbox, N=3, SysTime.0=(1x) 0x0dfb308f5e, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x3265ca0f18, Length=0x000c, Num Msgs=0x0001, Msg Id=Rev Preamble Config, Length=0x0009, Data=0x0001 0xe800 0x0001 0x0000 0x8000 0x0000 0x0000 0x0000 0x0000

11666 , >>> Msg Id=PC - General Page

12205 , >>> Msg Id=FTC - Order

12217 , <<< Msg Id=RTC - Order

12233 12:41:22:161> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb308f64, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x3266e3418c, CP State=TC Conversation

12667 , >>> Msg Id=FTC - Service Connect

12753 , <<< Msg Id=RTC - Service Connect Completion

12912 , >>> Msg Id=FTC - Power Control

13076 , >>> Msg Id=FTC - Power Control

13219 , >>> Msg Id=FTC - Order

13232 , <<< Msg Id=RTC - Pilot Strength measurement

13435 , >>> Msg Id=FTC - Order

43575 12:41:32:262> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb30915d, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32c35d9ea4, CP State=TC Release

43580 , <<< Msg Id=RTC - Order

43973 , >>> Msg Id=FTC - Order

44018 12:41:32:381> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb309163, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32c475e368, CP State=Sys Determination

44058 12:41:32:382> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb309163, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32c478bb18, CP State=Pilot Acquistion

44301 12:41:32:586> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32c6561c94, CP State=Sync Acquistion

45239 12:41:33:256> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000001a, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32cc76cce0, CP State=Timing Change

45812 12:41:33:546> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfb30919c, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x32cf1e34e8, CP State=Idle

46464 , >>> Msg Id=PC - General Page

### cdma 1x MT call setup

(idle state)

* + - 1. UE<-BS: general page msg

(update overhead info state)

* + - 1. UE->BS: page response msg( in access channel)
      2. UE<-BS: channel assigment msg(with traffic channel info, includes walsh code in tch)(in pagging channel)

(traffic init state)

* + - 1. UE<-BS: all 0 in frames (traffic state start)

(after UE get 2 good frames, in 1s)

* + - 1. UE->BS: reverse link preamble

(traffic wait for order)

* + - 1. UE<-BS: ack order (in 2s)
      2. UE->BS: null traffic
      3. UE<-BS: service connect msg (in 5s)
      4. UE->BS: service connect completion msg
      5. UE<-BS: Alert with info msg

(traffic wait for answer) , UE ringing, user answer call,tc?

* + - 1. UE->BS: connect order

(conversation)

* + - 1. release order
      2. release order

### cdma 1x MT call logs

57826 , >>> Msg Id=PC - General Page

57868 , >>> Msg Id=PC - Access Parameters

57904 , >>> Msg Id=PC - CDMA Channel List

57949 , >>> Msg Id=PC - Extended System Parameters

58038 , >>> Msg Id=PC - General Page

58054 , >>> Msg Id=PC - Neighbor List

58140 , >>> Msg Id=PC - System Parameters

58234 , >>> Msg Id=PC - Access Parameters

58264 , >>> Msg Id=PC - CDMA Channel List

58690 , >>> Msg Id=QPCH - Indicator

58934 , >>> Msg Id=QPCH - Indicator

59183 , >>> Msg Id=PC - General Page

59491 , >>> Msg Id=QPCH – Indicator

...

61930 02:51:28:737> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6aac, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef35362c58, CP State=Update Overhead info

...

62032 , <<< Msg Id=AC - Page Response

62180 , >>> Msg Id=PC - General Page

62219 , >>> Msg Id=PC - Access Parameters

62249 , >>> Msg Id=PC - CDMA Channel List

62291 , >>> Msg Id=PC - Extended System Parameters

62362 , >>> Msg Id=PC - General Page

62376 , >>> Msg Id=PC - Neighbor List

62447 , >>> Msg Id=PC - System Parameters

62536 , >>> Msg Id=PC - Access Parameters

62566 , >>> Msg Id=PC - CDMA Channel List

...

64019 , >>> Msg Id=PC - CDMA Channel List

64064 , >>> Msg Id=PC - Extended System Parameters

64133 , >>> Msg Id=PC - Neighbor List

64178 , >>> Msg Id=PC - System Parameters

64255 , >>> Msg Id=PC - General Page

64306 , >>> Msg Id=PC - Access Parameters

64336 , >>> Msg Id=PC - Order Message

64355 , >>> Msg Id=PC - Order Message

64406 , >>> Msg Id=PC - CDMA Channel List

64437 , >>> Msg Id=PC - Extended System Parameters

64481 , >>> Msg Id=PC - Neighbor List

64565 , >>> Msg Id=PC - Extended Channel Assignment

64611 , >>> Msg Id=PC - Extended Channel Assignment

64658 02:51:29:518> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6ad3, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef3c5afec4, CP State=Traffic Channel Initialization

...

65130 02:51:29:705> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6adc, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef3e12f61c, CP State=TC Waiting for Order

65438 , >>> Msg Id=FTC - Service Connect

65519 , <<< Msg Id=RTC - Service Connect Completion

65625 , >>> Msg Id=FTC - Power Control

65744 , >>> Msg Id=FTC - Power Control

65846 , >>> Msg Id=FTC - Order

65859 , <<< Msg Id=RTC - Pilot Strength measurement

65998 , >>> Msg Id=FTC - Order

66137 , >>> Msg Id=FTC - Alert With Information

66160 02:51:30:085> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6aef, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef418d6220, CP State=TC Wating for MS Answer

66371 , <<< Msg Id=RTC - Order

67220 , <<< Msg Id=RTC - Order

67880 , >>> Msg Id=FTC - Order

67891 02:51:30:905> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6b18, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef490f0678, CP State=TC Conversation

69638 02:51:31:617> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfaec6b3b, SysTime.1=(!DO) 0x000003cef2, SysTime.2=(32K) 0xef4f948e58, CP State=TC Release

69644 , <<< Msg Id=RTC - Order

69893 , >>> Msg Id=FTC - Order

### cdma开机找网流程

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CDMA通信系统和信令分析

1移动台登记系统

1.1选择可用载波:

移动台开机后就进入“初始化状态”。移动台不断扫描周围空间频谱，首先扫描使用最频繁的载频， 如果没有收到CDMA信号，将继续扫描第二个经常使用的载频，重复这一搜索过程直到接收到CDMA信号或者失败，如果在要求的频谱范围内没有CDMA信号可用，移动台将尝试转向模拟系统或转入待机休眠状态，等待随机时间后，再进行新的尝试。  移动台使用的漫游列表数据库（PRL）是预存在移动台内存里的，而已使用过的频率列表都存储在MRU中，移动台扫描频率并选择载波的算法称为系统判定算法（SDA）。  开机时，移动台使用专用算法决定自己可用的CDMA初始化载波。在接收的CDMA消息中，有两种寻呼信道消息--CDMA信道列表（CLM）和全球业务重定位消息（GSRM）可以决定移动台切换到其他的载波上去。

1.2寻找最强导频（PN），读取同步信道（Sync Channel）

1、移动台将不断的检测周围各基站发来的导频信号和同步信号。移动台通过识别本地PN序列的偏置， 可以知道周围有哪些基站在发送导频信号。移动台比较这些导频信号的强度来判断自己处于哪个小区之中。

2、移动台的瑞克接收机锁定最强导频，进行64阶沃尔什码（Walsh Code=32）解调，既可读出同步信道消息（Sync Channel Message）。

3、在获得同步信道消息后，移动台将继续搜索寻呼信道（Paging Channel）。移动台的瑞克接收机仍然锁定这个最强导频，进行64阶沃尔什码（Walsh Code=1）解调，监视寻呼信道（Paging Channel），读取配置消息。寻呼信道中包含系统配置消息（ConfigMsg），配置消息在寻呼信道内每1.28\*2N(N={0,1,2,3})秒重复一次，便于移动台进行捕获。移动台从寻呼信道获取系统配置消息后，就可以在系统内进行发送和相关操作了。   配置消息中包含接入参数、配置消息等参数的序列号，如果移动台发现任何消息的序列号需要升级，移动台将继续扫描寻呼信道以获得最新配置参数。如果没有发现序列号变化，移动台每600秒扫描寻呼信道一次。    当移动台再次扫描寻呼信道中的系统参数消息，移动台会用新接收的配置消息序列号（ConfigMsgSerialNumber）、CONFIG\_MSG\_SEQr予已经储存的SYS\_PAR\_MSG\_SEQs进行比较，如果相同，移动台将丢弃此帧，如果存在差别，移动台将更新已有配置消息参数。    当移动台再次扫描寻呼信道中的CDMA信道列表消息，移动台会用新接收的配置消息序列号（Config Msg Serial Number）、CONFIG\_MSG\_SEQr予已经储存的CHAN\_LST\_MSG\_SEQs 进行比较，如果相同，移动台将丢弃此帧，如果存在差别，移动台将更新已有配置消息参数。  2移动台空闲模式的切换（Handoff）     移动台在完成同步并登记完系统后，即由初始状态进入“空闲状态”。在此状态中，移动台可以接收 外来的呼叫，可以进行呼出和登记注册，还可以选择所需的码信道和数据率。    移动台在空闲模式中将不断监测导频信号的强度，如果监测到更好的导频信号，随时可以进行软切换。移动台不能够同时对多个小区的信号进行解调，因为各扇区的寻呼道配置消息是不同的。所以移动台每次只对周围接收到的最强信号进行解调，既然多个扇区的信号不能合并，移动台就要在不同导频信号间进行

快速的切换，以保持和基站通信的可靠性。    空闲状态下，移动台的导频搜索器不断扫描临区列表消息（Neighbor List Message）中的导频信号强度，如果移动台发现一个临区导频强度超过参考导频（Reference PN），这个新的强导频变为参考导频。同时移动台在下个超帧（Supper frame 80ms，由三个同步信道帧组成）——80ms后——切换到新的强导频的寻呼信道，重新进行配置消息的接收。在新的寻呼信道消息中，如果基站需要移动台进行注册，移动台将在新的扇区内完成上述注册过程。

3:移动台在接入信道中     接入信道（Access Channel）用于移动台向基站报告自己的注册、本机和寻呼响应消息，基站通过 寻呼信道不断与移动台通信。理论上一个扇区的寻呼信道可以同时和32个接入信道进行通信，实际上，移动台只用一个接入信道就完成所有的操作。在接入信道上，移动台不在基站的闭环功率控制范围内。   移动台使用随机接入协议在接入信道上进行发射，从发射一则消息到接收到（或接受失败）该消息的确认消息的过程称为接入尝试（accessattempt）。接入尝试中的每次发送称为接入探针（accessprobe）。移动台在接入尝试的每个接入探针发送相同的消息    移动台用接入探针（probe）与基站通信，接入功率大小由移动台开环功控决定。如果探针在ACC\_TMO时间内（最大400ms）没有收到确认消息，移动台等待随机时间（最大200ms）后，探针功率增加PI（功率增加量PowerIncrease）dB再次发送。一个探针序列最多由15个接入探针组成，通常为5个探针；一个接入尝试通常含有两个接入序列，大多数情况下接入探针第一次发送即可成功，如上图。寻呼信道的接入参数消息（APM）包含所有与接入有关的参数。  4移动台系统注册（Registration）     系统登记使系统知道移动台已处于激活状态，可以随时发起呼叫或接收来话。移动台不断向系统报告 自己的位置变化，以便于有来话发生时，系统可以及时进行交换处理，发送来话消息到移动台。注册后，系统只有和移动台建立通信的基站发送寻呼信道消息，这样减少了系统内的寻呼信道消息的拥塞。寻呼信道的系统参数消息（SPM）决定移动台是否需要进行新的系统注册，收到消息的移动台将向系统回复自己的注册消息（Registration Message）。注册消息的呼叫过程如下：      首先，移动台发送系统参数消息（SPM），要求收到的移动台进行注册；     移动台收到此消息后，向基站发送注册消息（Registration Message）；      基站收到移动台发送的注册消息后，向移动台回复确认消息，通报系统注册已完成。  5接听来话     移动台完成系统注册后，就可以随时进行呼入和呼出操作。在这过程中，移动台不断监视寻呼信道以 判断是否有来话呼叫。当有来话发生时，寻呼信道中的通用寻呼消息（GPM）通知移动台准备接入。之后，移动台通过接入信道向系统发送寻呼响应消息（PRM），准备接收来话。得到确认后，系统通过信道指配消息（CAM）分配一条下行业务信道给移动台来接入来话。然后，移动台和基站互相进行确认，保证双方的业务信道已经建立完成，同时确定呼叫的类型是否一致，9.6Kbps或13Kbps等。移动台现在可以振铃通知用户准备接听，并显示呼叫方的电话号码（calling line ID）。当用户按动通话按钮，语音通道建立完成，就可以进行双工通话了。      接听来话的消息传递过程如下：      1、通过寻呼信道通知移动台准备接收呼叫：    系统发送通用寻呼消息（GPM），准备接收来话

 移动台发送寻呼响应消息（PRM），准备接入呼叫    基站确认消息（Order Message），移动台等待一定时间（12秒以内）准备接收信道分配消息（CAM）      2、基站指配进行通话的信道，双方确认通话的业务信道：   基站发送信道指配消息（CAM）。基站发送确认寻呼响应消息后200ms，移动台接收到基站业务信道指配消息    基站开始在指配的业务信道（指定Walsh Code）上发送空帧。移动台在前向链路收到至少两个空帧后，确定该业务信道为基站指配的信道，然后，移动台发送连续两个空帧报头，指明用于反向链路的业务信道。  基站确认已经收到移动台发来的空报头（blank preamble），在已指定前向业务信道上向移动台发送确认消息   移动台在指定反向业务信道上回复确认消息已收到       3、双方建立业务连接，移动台启动振铃：   基站和移动台建立前向和反向业务信道后，就准备启动呼叫了。基站先向移动台发送业务连接消息（SCM）   移动台收到业务连接消息后，建立双方连接后，通报基站业务连接建立完成。业务连接完成消息（SCCM）标志着呼叫建立完成，一次接入尝试（access attempt）成功  基站向移动台发送振铃消息，要求移动台启动振铃，准备接听来话  移动台回复确认消息（Order Msg），启动振铃       4、用户接通电话，连接完成：   用户听到移动台振铃后，按下通话键，最后完成连接命令（Connect Order）  基站确认连接命令    交换机建立双方的语音电路连接，呼叫双方可以进行通话了。

6对外呼叫       和接听来话相似，用户对外拨叫也要同系统进行消息传递，建立双方通话的上下行业务信道。    首先用户拨打对方的电话号码，按下呼叫按钮，移动台在接入信道（Access Chl）上发送原始消息（Origination Msg）。系统收到消息后，在寻呼信道上进行确认。系统开始分配业务信道用于双方通话，通过业务信道分配消息（CAM）指配专用信道给移动台作为上下行信道。双方进行上下行业务信道的确认，并确定语音通话速率。交换机建立语音电路，被叫方听到电话振铃，通话开始。     双方的消息传递过程如下：   用户按下拨叫按钮后，移动台向系统发送原始消息  基站收到原始消息后，向移动台进行确认   基站向移动台发送信道指配消息（CAM），移动台锁定该下行业务信道   基站向移动台连续发送空的数据帧用指定的沃尔什码调制以实现在专用业务信道上的传送。   移动台在指定业务信道上收到至少两个空帧后，确认该业务信道是用于通话的下行信道后，移动台在它的反向业务信道上发送两个连续的空报头（Blank Preamble）（注：移动台的反向业务信道是通过长码偏置确定的，而每个移动台长码偏置是由电子序列号（ESN）唯一确定的，因此每个移动台的反向业务信道是不会混淆的，它通过不同的长码进行解调）   基站发送确认消息，表明已收到移动台发送的空报头  移动台发送确认消息，表明已经知道基站的确认   基站在指定业务信道上再次发送业务连接消息（SCM），此时双方上下行业务信道都已建立，且 不会占用小区内其他用户通话的业务信道。

 移动台收到连接消息后，回复业务连接完成消息（SCCM），表明连接已经建立可以准备通话了。  基站进行确认，表明呼叫建立完成，一次接入尝试（access  attempt）成功  交换机建立双方的语音电路连接，呼叫双方可以进行通话了  7结束一次呼叫    通常当通话双方的一方挂断电话后，标志着通话结束。当移动台按下挂机案件后，移动台发送释放电 路消息（Release Order），通话另一方断线后，也发送释放消息（Release Order）。移动台挂机后，将重新登记系统，过程与上述登记一样，现搜索周围最强导频，读取同步消息，定期监测寻呼信道。   用户挂断电话后，移动台发送释放消息（Release Order）  基站收到释放消息后，发送确认消息，之后发送基站释放消息   通话技术后，移动台重新搜索周围最强导频，读取同步消息，定期监测寻呼信道  注：除了正常的通话结束外，还有其他原因可能导致双方通话被迫中断，常称为“掉话”。掉话原因可能是：移动台无法收到前向业务信道信号，超过定时器时间，导致掉话；基站无法收到反向业务信道信号，超过定时器时间，导致掉话；基站发送的许多前向链路消息得不到确认，基站断开连接，导致掉话；移动台发送的许多反向链路消息得不到确认，移动台断开连接，导致掉话。    CDMA的主叫信令流程   主叫MS发送（起呼消息Origination msg）消息给基站， 基站在收到该消息后向MS回复（基站应答消息Base ACK order）消息；手机的第一个消息发送到基站后通过ABIS链路到BSC，BSC向MSC发送（呼叫服务管理请求CM Service Requers）消息；MSC收到该消息后向BSC回复(指配请求消息Assignment Request)消息；基站收到该消息后向MS发送（扩展信道指配消息ECAM）消息；MS收到该消息后向基站发送（反向业务前导消息Traffic Channel Preamble）消息；基站收到该消息后向MS发送（应答确认消息 Base Ack Order）消息，MS收到该消息后向基站发送（应答确认消息 MS Ack Order）消息；基站收到该消息后向MS发送（业务连接消息Service Connect MSG）消息，MS收到后向基站发送（业务连接完成消息Service Connect Complete）消息

### STT log Analysis

1. Crush ID: Name\_coredump\_\*\*\*\*\*\_xxxxx.html
2. System Info(sw/hw version): manifest\_hcdf\_report.html. This file contains system information such as sw/hw versions, memory usage details, stack usage statistics, the call stack, etc. It also contains a CDMA Core Dump Data section that includes CP Fault Data, CP task status, system events, CDMA register contents, and DSPM core dump data. In this demo, a MAIL\_QUEUE\_FULL error was detected leading to the crash
3. cdma\_core\_dump\_data.log: This file contains the simple text version of the CDMA Core Dump Data section from the manifest\_hcdf\_report.html file described in the previous page. It is convenient for doing searches for events and time, etc.

### DO Session Open fail

There is a lot of fault result from ftapf.c from gerrit 462060 included in this bender.

12:49:09:783> ETS, Id=CP File Info, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Info=../../ps\_cdma/cp/fcp/ftapf.c, line 735

12:49:09:783> ETS, Id=CP Fault, Unit=FCP, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Code 1=FCP\_FTAP\_ERR, Code 2=0x00000955, Fault Type=Continue

12:49:09:783> ETS, Id=CP File Info, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Info=../../ps\_cdma/cp/fcp/ftapf.c, line 735

12:49:09:783> ETS, Id=CP Fault, Unit=FCP, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Code 1=FCP\_FTAP\_ERR, Code 2=0x00000955, Fault Type=Continue

12:49:09:783> ETS, Id=CP File Info, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Info=../../ps\_cdma/cp/fcp/ftapf.c, line 735

12:49:09:783> ETS, Id=CP Fault, Unit=FCP, N=3, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x0a656994c0, SysTime.2=(32K) 0x0000000000, Code 1=FCP\_FTAP\_ERR, Code 2=0x00000955, Fault Type=Continue

The session negotiation is not same as usual success ones.

### CDMA Log关键字

CP state: 1x状态

AT state: DO状态

fault: 错误

Received Power: 接收功率

Rx Gain State： Rx接收增益等级

1x DSPM接收参数

ETS, Id=DSPM Spy, SpyId=DSPM Rfc RxTx, N=3, SysTime.0=(!1x) 0x0000000006, SysTime.1=(!DO) 0x0000000000, SysTime.2=(32K) 0x00e200c8dc, Received Power (dBm)=-57.34, Receive PDM Value=0x0000, Rx Gain State=2, Transmit Power (dBm)=-150.00, Transmit PDM Value=0x0000, Tx Gain State=0, Bitsel=-3, DigiGain=27, HwVal=0xfd1b, Div Rx Power (dBm)=-150.00, Div Rx Gain State=0, Bitsel=0, DigiGain=0, HwVal=0x0000, Tx 32bit HW Value=0xbdc21bda

### DO接收参数

ETS, Id=CP Spy, SpyId=CP RF Status, N=3, SysTime.0=(1x) 0x0dde96f156, SysTime.1=(!DO) 0x0a66f134c2, SysTime.2=(32K) 0x0111efbc08

, Interface=EVDO

, CdmaBand=BAND\_CLASS\_0, Channel=78, RfUsed=0

, Main Rx Pwr=-52.172, Main Rx GainState=2, Div Rx Pwr=-512.000, Div Rx GainState=0

, Tx Pwr=-512.000, Tx Max Pwr=25.000

, Afc State=Disabled, Afc Error [Hz]= -0.25, Afc Offset [Hz]= 0.00, Afc Offset [Ppbi]= 0.00, Afc Offset [Ppm]=-0.00028992, RAC Afc Offset= 0.00

, Spy State=RST\_TOTAL\_FREQ\_ADJ, Temperature [C]=29, LtlFoffs [Ppbi]= 0.00, LtlAbsFoffs [Ppbi]= 0.00, LtlAfcDeltaFoffs [Ppbi]= 0.00, Rx FIFO Cnt=0, ADJCNT=16

, AdvRet=RET, Tx FIFO Cnt=0, FIFO IntStat=0x0000

, AccumDLL Adjust Tc8=0

### 1x search procedure

XMM7560\_CDMA\_Sw\_Training\_Day1\_updated version.pdf, page35

1. css gets grant from arbitration
   1. -->CSS\_IRATRFC\_SERVICE\_REQ
   2. <--CSS\_IRATRFC\_BAND\_SEARCH\_ALLOWED\_IND
   3. <--CSS\_IRATRFC\_SERVICE\_CNF

(1x scanning)

1. PSW\_CSS\_SELECT\_RSP\_MSG(channel, band)
2. -->L1D\_PILOT\_ACQ\_START\_MSG, then Pilot-acq process
3. <--L1D\_SEARCH\_RSLT\_MSG
4. -->L1D\_SYNC\_ACQ\_START\_MSG, then sync process
5. <--IS2000\_PSW-FORWARD\_SYNC\_CHAN\_FRAME\_MSG
6. <--CSS\_1X\_VALIDATED\_REQ\_MSG

CSS validate acquired 1x system ok

1. -->CSS\_IRATRFC\_SERVICE\_REL\_IND(1X APB\_SEARCH)

1X Moves to INACTIVE state

1. -->PSW\_CMD\_STATUS\_MSG(PSW\_IRAT\_RESET\_1XCDMA)

SYS\_Determination

1. <--CSS\_1X\_SELECT\_REQ\_MSG(CP\_PREV\_IRAT\_RESET\_1XCDMA)
2. <--MMG\_CSS\_SEARCH\_CNF
3. -->MMG\_CSS\_REG\_REQ, then, 1X REG process begin

1x search process with last-acquired 1x system

1. <--IRATRFC\_CXRR\_SERVICE\_REQ
2. -->IRATRFC\_CXRR\_SERVICE\_CNF
3. --> L1D\_ACCESS\_SIG\_MSG
4. <--CP\_ORDER\_MESSAGE
5. <--CSS\_1X\_REG\_ACCEPTED\_MSG
6. <--IRATRFC\_CXRR\_SERVICE\_RELEASE\_IND
7. <-->MMG\_CSS\_REG\_CNF

### STT log关键字

|  |  |  |
| --- | --- | --- |
| \_Msg Src | \_Summary | Comment |
| cdma\_sw | CP Trace, CP Freq Channel | Band, Channel, system(1x or DO) |
| cdma\_sw | CP Spy, CP RF Status | band, channel, Rx Pwr, Rx Gain State, Tx Pwr, AFC, |
| sdl | PSW\_CALL\_ | about call setup/incoming/accept/status/disconnected |
| cdma\_sw | CP Search Results Active | 1x, Ec/Io, 当前active set的PN偏移 |
| cdma\_sw | CP Trace, CP CDMA System Status | 1x band, ch, pilotPN, sid, nid |
| cdma\_sw | CP Spy, CP RMC RUP SEARCHER STATUS | DO,Ec/Io, 当前active set的PN偏移 |
| cdma\_sw | CP Trace, CP\_RMC\_FMP\_COMBINING\_STATUS\_TRACE\_ID | :SNRdB |
| rpcu\_sw-dump\_bin | RAU\_RTS\_RESOURCE\_REQ | cdma paging informaiton in istp trace |
| cdma\_sw | CP Spy, CP PE ENG\_LAYER2\_TR | Pilot\_PN, 查询小区PN |
|  | MPH\_SCELL\_RXLEV\_IND | GSM rxlevel |
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### ETS log 关键字

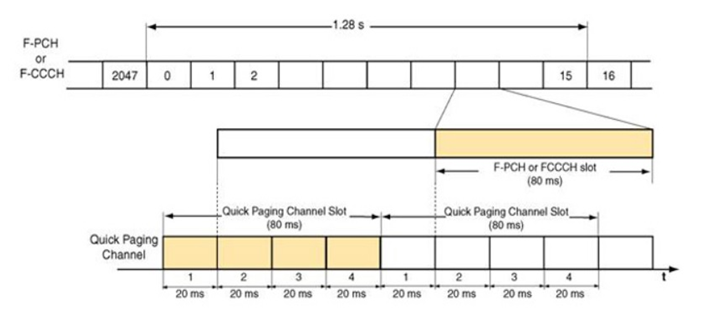
|  |  |
| --- | --- |
| Key word |  |
| QPCH\_SUPPORTED | 网络是否支持QPCH，任意一个log都有 |
| CP State=Idle | 1x找到网络，等待20s发起注册 |
| Event=ENG\_REGISTRATION\_REQ | 1x发起注册请求 |
| AC - Registration | 1x发起注册，ACK=0 |
| IMSI\_S= | 根据IMSI确定UE |
| >>> Msg Id=PC - Access Parameters | UE接收接入参数 |
| >>> Msg Id=PC - CDMA Channel List | UE接收信道参数 |
| >>> Msg Id=PC - Extended System Parameters | UE接收扩展系统消息 |
| >>> Msg Id=PC - General Page |  |
| >>> Msg Id=PC - Neighbor List |  |
| >>> Msg Id=PC - Order Message  ORDQ=0 [Reg Accepted Order] | 注册成功 |
| Msg Id=QPCH - Indicator | QPCHpaging时间，利用两个Msg Id=QPCH – Indicator时间差求SCI |
| <<< Msg Id=AC - Page Response  SLOT\_CYCLE\_INDEX | UE上报SCI周期，1.28s\*2^(SCI), 中国电信SCI=2, 5.12s  (UE\_SCI) |
| >>> Msg Id=PC - System Parameters  MAX\_SLOT\_CYCLE\_INDEX | 网络广播的最大SCI，最终使用的SCI=MIN(MAX SCI, UE\_SCI) |
| ETS, Id=CP Test Modes, Mode=Enable Qpch Mode, Qualifier=Off, Value=0x0000 | 使用ETS关闭QPCH命令 |
| PILOT\_PN | Pilot\_PN, 查询小区PN |
| ENG\_IDLE\_HANDOFF | idle 下handoff |
| CP Wrapper Call  - wbiosTrafficChannelSoftHandoff  L1D\_TRAFFIC\_CHAN\_SOFT\_HANDOFF\_MSG | soft handoff |
| Universal Handoff Direction  Handoff Completion | handoff 开始  handoff结束 |
| TC Conversation | 开始拨打电话 |
| Traffic Chan Stop  Sys Determination | 电话中断 |
| Num Nghbr | Neighbour cell |
| CP Spy, SpyId=CP PE ENG\_LAYER2\_TR  , >>> Msg Id=PC - Neighbor List  , PILOT\_PN=54  , CONFIG\_MSG\_SEQ=47  , PILOT\_INC=3    , NGBR\_CONFIG=0  , NGHBR\_PN=57  , PDU\_PADDING=0 | Neighbour cell lists |
|  | cdma 1x MT call |
| L1D\_RESET\_MSG | L1 reset, L1重启 |
| PSW\_IRATRFC\_SUSPEND\_REQ | 这个卡经常被另外一张卡抢占，一直掉网。所以MT呼叫失败了 |
| MPA\_RF\_PREEMPT\_REQ\_MSG | RF被抢占 |
| ENG\_IND\_ANTENNA\_RAU\_PREEMPTED | 天线被抢占 |
| ENG\_IND\_ANTENNA\_ARB\_PREEMPTED |  |
| HSC\_ERR\_RM\_GEN |  |
| RCP\_RTM\_ERR |  |
| L1D\_INVALID\_SEARCH\_RESULTS |  |
| HSC\_ERR\_WAKE\_RF\_REQ |  |
| RMC\_L1CD\_ERR\_UNEXPECTED\_MSG\_IN\_L1CD\_STATE |  |
| L1D\_SPAGE\_SEND\_RESYNC\_DENIED\_IND | //resync deny due to RAU initial suspend (page conflicts) |
| , >>> Msg Id=QPCH - Indicator  , PILOT\_PN=51  , QPCH\_RATE=0 [4800 bps]  , Indicator=PI 1  , Position=17  , Status=1 [On] | //Status=1 means there is page addressed to UE  //Status=1 means there is going to be an PAGE message addressed to UE in 100ms later |
| ETS, Id=CP Trace, TraceId=CP Idle Ordered Wake Time, N=0x00000003, SysTime.0=(1x) 0x0e0c46030b, SysTime.1=(!DO) 0x000002b839, SysTime.2=(32K) 0xad51e2bc84, Current Time=0x0c46030b, Wake Time=0x0c460310 | //from below traces, schedule the next wakeup Time is 0x0c460310, which is 5\*20=100 ms later for normal PCH |
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### LTE STT logs

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| --- | --- |
| Rules |  |
| EPHY-LTE Firmware/Ref.Signal Meas.,Serving Cell... | LTE:接收信号强度 |
| EPHY-LTE Firmware/PDSCH –DL Allocations Detailed\_copy | PRB |
| L1CC\_LTX\_PUSCH\_CMD | UL 资源信息 |
| ORX\_IRX\_PDSCH\_ALLOC\_0\_CMD  (rule: PDSCH – DL Allocations Detailed) | UL 信息 |
| L1CC\_CSM\_RSRP\_RESULTS\_IND | LTE RSRP 信号强度 |
| L1CC\_IRX\_RSRP\_RSRQ\_IND | 查看LTE主辅天线是否平衡，snr， |
| 4G DL\_DCCH: rrcConnectionReconfiguration; measConfig measIds:2; TM3; Add SCELL1 earfcn/pci:1275/11(B3) | 查看是否有CA小区 |
| PDCCH – DL allocation\_ICE18 | 查看两个CA小区是否都承载数据 |
| ref. Signal Meas., Serving Cell ...\_ICE18 | 查看小区rsrp(主副), imbal, rsrp, crsSNR |
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### QPCH相关知识

Tao: We didn’t see China Telecom enable QPCH is most of cities. For example, BJ CTC network QPCH is disabled. So if you want to be exactly same as CTC live network, QPCH should be disabled.But just as Yanzhi said, enable QPCH cause timing behavior to CDMA-RAU (depending on QPCH decode and if it indicates there is read page message in coming 80ms). There is carrier or China cities with QPCH enabled. Huijuan once also mentioned if you want to create more collision on RAU, you can lower base station power or add fading. This cause QPCH decode failue. Then CDMA not only need decodes QPCH but also F-PCH. That is, occupy RF resource much longer than QPCH disabled.



Yanzhi: QPCH is used to tell UE whether it has page message in next slot. If there is no page for this UE, UE won’t monitor 80ms for the PCH. QPCH is 20ms(I didn’t remember clearly) before PCH. It’s used for power save.

From UE side, we can disable QPCH by sending AT command:

at@crf:ets(10{25,5,17,0,0,0,0,0,0,0})

This command needs to be rent every time when XMM7560 is cycled or reset.

### cdma trace search

* **7560 master rules with CDMA updates**

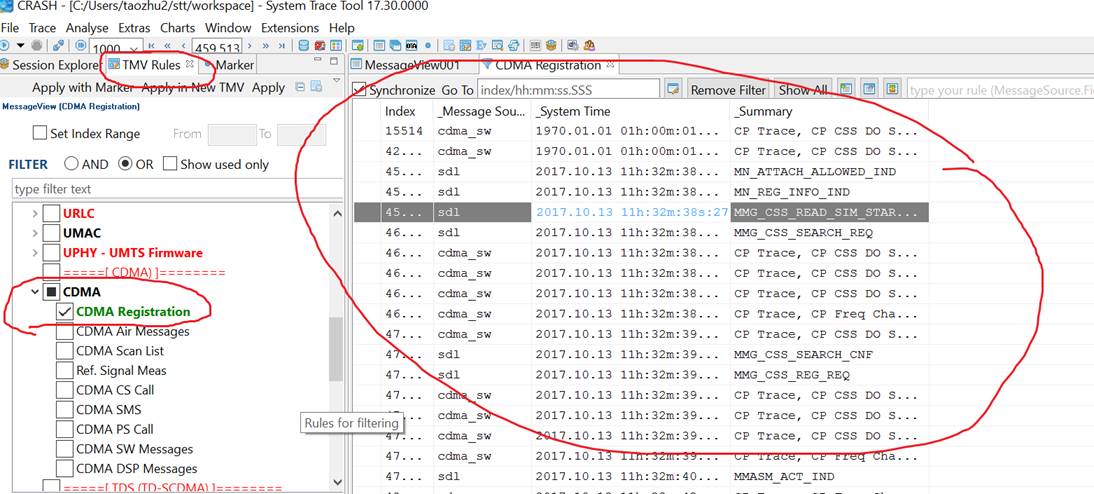
Latest version available at:

[\\imcsmb.imu.intel.com\pftools\pdb\_wls\_tools\TOOLS\_SIT\_STT\_ARTIFACTS\Rules\Master\_Rule\_V2\ReleasedToICE\MasterRules\_ICE\_7560.rules](file:///\\imcsmb.imu.intel.com\pftools\pdb_wls_tools\TOOLS_SIT_STT_ARTIFACTS\Rules\Master_Rule_V2\ReleasedToICE\MasterRules_ICE_7560.rules)

**XMM7560 Rules Main changes:**

* ***LTE NAS - MN/MM (Mobile NW/Mobility Mgr)*** improved (IMS msg are removed from the rule)
* ***LTE PS - Ref. Signal Level (Neighbour Cells)*** CDMA neighbor cells measurements added
* ***LTE PS – Band Combination*** improved (includes also all the bands supported on different RATs)
* ***LTE FW - 4x4 MIMO*** added to cover 4x4 MIMO scenario. This includes configuration for 4 layers and all PDSCH where only 4x4 MIMO is used and when RI 4 is reported.
* ***LTE FW – DL 256 QAM config/allocation*** added to cover 256QAM scenario. This includes configuration for 256QAM modulation for Pcell/ Scell and all PDSCH scheduling where only 256QAM is used.
* ***CDMA Registration*** added. NAS/CDMA PS  and CDMA FW messages needed for registration.
* ***CDMA Air Messages*** added. Only CDMA OTA msg are displayed.
* ***CDMA Scan List*** added. Scan List result from CDMA FW
* ***CDMA Ref. Signal Meas*** added. CDMA Serving Cell measurements.
* ***CDMA CS Call*** added. CDMA PS  messages needed for CS call.
* ***CDMA SMS*** added. CDMA PS  messages needed for SMS call.
* ***CDMA PS Call*** added. CDMA PS  messages needed for PS call.
* ***CDMA SW Messages*** added. All CDMA FW messages will be displayed.
* ***CDMA DSP Messages*** added.  All CDMA DSP messages will be displayed.
* ***3G eRACH\_CEDCH*** added to cover eRACH scenario.
* ***L1E\_CDMA\_MEASUREMENT\_IND*** added in GSM/UMTS/LTE main Rule.
* ***CDMA to LTE Reselection scenario*** added in RAT/Inter-RAT mobility Rule.
* ***LTE to CDMA to Reselection scenario*** added in RAT/Inter-RAT mobility Rule.
* ***LTE to CDMA to Redirection scenario*** added in RAT/Inter-RAT mobility Rule.
* ***CDMA Macro Set*** Rules added.

All CDMA rules are under CDMA subgroups.



* **XMM7560 CDMA Script Main changes:**
* ***CDMA Script has been created.*** At the moment a separately script has been created in order to debug faster the issues. Once it will be populated of most of the messages, a ticket will be opened in order to have the same contents displayed also on **Extended Summary**. After that it can be included in the **Master Script**.

Latest version available at:

[\\imcsmb.imu.intel.com\pftools\pdb\_wls\_tools\TOOLS\_SIT\_STT\_ARTIFACTS\Scripts\MasterScript\MasterScript\_XMM7560\_CDMA.js](file:///\\imcsmb.imu.intel.com\pftools\pdb_wls_tools\TOOLS_SIT_STT_ARTIFACTS\Scripts\MasterScript\MasterScript_XMM7560_CDMA.js)

***Work in progress (for next releases):***

* **XMM7420 (IBIS) Master Script improvements**. Improving/fixing XMM7420 Master script.
* **XMM7560 CDMA Script improvements**. Improving/fixing Master Script for CDMA messages.
* **XMM7560 CDMA Rules improvements**. Improving/fixing Rules for CDMA test cases.
* **XMM7560 Master Script improvements**. Improving/fixing XMM7560 Master script.
* **XMM7660 Master Script.** Creating Master Script forXMM7660.
* **XMM7660 Rules.** Creating Rules forXMM7660.

|  |  |
| --- | --- |
| Key word |  |
| >>> Msg Id= | Downlink 1X OTA message |
| <<< Msg Id= | Uplink 1X OTA message |
| MessageId= | DO OTA message. <<<does not work for DO. Use PhyChan to distinguish channel type and direction |
|  |  |
| CP State= | CDMA 1X state machine transition |
|  |  |
|  |  |
| CP CLC L3 STATE CHANGE | CDMA Connection Layer state machine transition which contains sub modules  ATState= overall L3 state  AlmpState= Air link management protocol state  InspState= Initialization State Protocol state  IdpState= Idle state Protocol state  CspState= Connection State Protocol state  RupState= Route Update Protocol state  OmpState= Overhead Message Protocol state |
|  |  |
| CP HLP CAM State Transition | CDMA 1X/DO data call state machine transition |
|  |  |
| CP CSS CMD Mailbox Msg | CSS(CDMA system selection )mailbox rx msd id trace |
| CP PSW Cmd Mailbox Msg Trace | CDMA 1X protocol stack rx msg id trace |
| CP CLC MSGID TRACE | CDMA DO Connection Layer controller rx msg id trace |
| CP SLC MSGID TRACE | CDMA DO Session layer controller rx msg id trace |
| CP HL Cmd Mailbox Msg | CDMA High Layer(data plane controller) rx msg id trace |
|  |  |
| CP RF Status | General RF status, rx power(main/div), tx power, rfc |
| 1x searcher status | CP Search Results Active |
| DO searcher status | CP RMC RUP SEARCHER STATUS |
|  |  |

CDMA marginal signal strength

1. Rx power -95~102dbm
2. Tx power 17dbm~24dbm
3. Pilot strength(Ec/Io)

-8~-13db for DO

-15~-19db for 1X

### Disable CDMA roaming

Please always disable CDMA roaming by following cmds.

at@nvm:dyn\_cps.instance[0].mm.cdma\_config.disable\_cdma\_rats\_on\_roaming\_feat\_enabled=1

at@nvm:dyn\_cps.instance[0].mm.cdma\_config.disable\_cdma\_rats\_specific\_ct\_sim\_feat\_enabled=1

at@nvm:store\_nvm(dyn\_cps)

### fader RF channel

Socket addr: 192.168.1.113:3334, cmd: SYSTem:ERRor?

[2018-01-25T20:12:53.713+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 0,"No error"

[2018-01-25T20:12:53.713+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: DIAGnostic:SIMUlation:MODEL:INFO?

[2018-01-25T20:12:53.716+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 7,10,8

[2018-01-25T20:12:53.717+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 1(Channel 1)

[2018-01-25T20:12:53.720+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1(Input),1(Output)

[2018-01-25T20:12:53.720+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 1

[2018-01-25T20:12:53.723+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-9,RF-13,-,-

[2018-01-25T20:12:53.723+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 2

[2018-01-25T20:12:53.726+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,2

[2018-01-25T20:12:53.726+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 2

[2018-01-25T20:12:53.727+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-9,RF-15,-,-

[2018-01-25T20:12:53.729+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 3

[2018-01-25T20:12:53.730+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 2,1

[2018-01-25T20:12:53.732+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 3

[2018-01-25T20:12:53.733+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-11,RF-13,-,-

[2018-01-25T20:12:53.733+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 4

[2018-01-25T20:12:53.736+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 2,2

[2018-01-25T20:12:53.736+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 4

[2018-01-25T20:12:53.737+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-11,RF-15,-,-

[2018-01-25T20:12:53.740+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 5

[2018-01-25T20:12:53.742+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 3,3

[2018-01-25T20:12:53.743+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 5

[2018-01-25T20:12:53.746+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-13,RF-9,-,-

[2018-01-25T20:12:53.746+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 6

[2018-01-25T20:12:53.749+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 3,4

[2018-01-25T20:12:53.750+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 6

[2018-01-25T20:12:53.752+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-13,RF-11,-,-

[2018-01-25T20:12:53.753+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 7

[2018-01-25T20:12:53.753+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 4,5

[2018-01-25T20:12:53.755+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 7

[2018-01-25T20:12:53.756+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-17,RF-21,-,-

[2018-01-25T20:12:53.756+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 8

[2018-01-25T20:12:53.759+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 5,6

[2018-01-25T20:12:53.759+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 8

[2018-01-25T20:12:53.759+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-21,RF-17,-,-

[2018-01-25T20:12:53.760+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 9

[2018-01-25T20:12:53.762+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 6,7

[2018-01-25T20:12:53.762+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 9

[2018-01-25T20:12:53.763+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-1,RF-5,-,-

[2018-01-25T20:12:53.763+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: rout:path:id? 10

[2018-01-25T20:12:53.765+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 7,8

[2018-01-25T20:12:53.765+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, cmd: route:path:connector? 10

[2018-01-25T20:12:53.766+08:00] INFO TestExecution socket\_base Socket addr: 192.168.1.113:3334, response: 1,RF-5,RF-1,-,-

### MT call failed log分析

你这个是双卡测试，

CDMA这个卡经常被另外一张卡抢占，一直掉网。所以MT呼叫失败了

Line 71284: 01:08:35:320> ETS, Id=CP Trace, TraceId=CP PSW Cmd Mailbox Msg Trace, N=0x00000003, SysTime.0=(!1x) 0x0dfdca8f86, SysTime.1=(!DO) 0x00000000fb, SysTime.2=(32K) 0x0000000000, Msg Id=PSW\_IRATRFC\_SUSPEND\_REQ

Line 71294: 01:08:35:320> ETS, Id=CP Fault, Unit=PSW, N=3, SysTime.0=(!1x) 0x0dfdca8f86, SysTime.1=(!DO) 0x00000000fb, SysTime.2=(32K) 0x0000000000, Code 1=Invalid Pended Event for Idle State, Code 2=0xfaceface, Fault Type=Continue

Line 71299: 01:08:35:321> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfdca8f86, SysTime.1=(!DO) 0x00000000fb, SysTime.2=(32K) 0x0000000000, CP State=Sys Determination

Line 71308: 01:08:35:321> ETS, Id=CP Trace, TraceId=CP CAS MESSAGE TRACE, N=0x00000003, SysTime.0=(!1x) 0x0dfdca8fe1, SysTime.1=(!DO) 0x00000000fb, SysTime.2=(32K) 0x126deaa35c, MsgId=PSW\_IRATRFC\_SUSPEND\_CNF, MsgSize=0x00000044

还有一个场景也是CDMA掉网 system determination，底层RF 被preempt了

01:06:17:800> ETS, Id=CP Trace, TraceId=CP L1d Cmd Mbox, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dcf194, Msg Id=MPA\_RF\_PREEMPT\_REQ\_MSG

01:06:17:800> ETS, Id=CP Trace, TraceId=CP PSW Cmd Mailbox Msg Trace, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dcfd3c, Msg Id=PSW\_CMD\_STATUS\_MSG

01:06:17:800> ETS, Id=CP Trace, TraceId=CP Wrapper Call, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dd00c4, FuncCall=engRelayReportStatus()

01:06:17:800> ETS, Id=CP Trace, TraceId=CP CDMA Idle SubState Event, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dd05c4, Idle subState=CP\_IDLE\_MONITOR, Event=ENG\_IND\_ANTENNA\_RAU\_PREEMPTED

01:06:17:800> ETS, Id=CP Trace, TraceId=CP PE\_IDLE\_STATE\_ENTRY\_TRACE\_ID, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dd097c, CurrentCDMAState=Idle, CurrentIdleState=CP\_IDLE\_MONITOR, L1Asleep=No, Event=ENG\_IND\_ANTENNA\_RAU\_PREEMPTED

01:06:17:800> ETS, Id=CP Trace, TraceId=CP L1d Cmd Mbox, N=0x00000003, SysTime.0=(1x) 0x0dfdca7505, SysTime.1=(!DO) 0x0000000016, SysTime.2=(32K) 0x0d82dd12e4, Msg Id=L1D\_RESET\_MSG

导致L1 reset。

### 1x log分析

1X只有在IDLE情况下才能收page消息。而1X优先级是很高的，只能被卡2 某些事件抢占。

所以看log主要就是看1X处于不是IDLE状态的时间。

Search "cp state|ENG\_IND\_ANTENNA\_RAU\_PREEMPTED|<<<|>>>" (107 hits in 1 file)

13:07:03:964 - 13:07:06:859 这段应该是开机找网

13:07:28:787 - 13:07:31:339 这段是被抢占了，1X掉网了

还有1X 没有收到网络的reg accept order。应该也是因为被抢占导致丢失了没有收到。

  C:\work\7560\temp\ETS\_INFRA\_ZTE\_100.30\_ETU300low\_VA30\_far\_TDD\_CDMA1x\_ssim2\_1\_XMM7560\_\_iteration2\_020818\_1305.log (107 hits)

         Line 21: 13:07:03:964> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfe8a8c2a, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x0000000000, CP State=Sys Determination

         Line 151: 13:07:03:970> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfe8aab1c, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17b45556c8, CP State=Pilot Acquistion

         Line 430: 13:07:04:181> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17b64315dc, CP State=Sync Acquistion

         Line 945: 13:07:04:639> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000000f, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17ba75b688, CP State=Sys Determination

         Line 956: 13:07:04:640> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000000f, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17ba764124, CP State=Pilot Acquistion

         Line 1237: 13:07:04:832> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17bc38b424, CP State=Sync Acquistion

         Line 1649: 13:07:05:279> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c04fda44, CP State=Sys Determination

         Line 1660: 13:07:05:279> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c050636c, CP State=Pilot Acquistion

         Line 1935: 13:07:05:471> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c212dcf0, CP State=Sync Acquistion

         Line 2354: 13:07:05:920> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c62e7508, CP State=Sys Determination

         Line 2365: 13:07:05:920> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c62f0158, CP State=Pilot Acquistion

         Line 2632: 13:07:06:112> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17c7f171f4, CP State=Sync Acquistion

         Line 3007: 13:07:06:569> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000012, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17cc1f4afc, CP State=Timing Change

         Line 3303: 13:07:06:859> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aabac, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17cec79cb0, CP State=Idle

         Line 3527:        , >>> Msg Id=PC - Access Parameters

         Line 3597:        , >>> Msg Id=PC - CDMA Channel List

         Line 3631:        , >>> Msg Id=PC - Extended System Parameters

         Line 3682:        , >>> Msg Id=PC - Neighbor List

         Line 3715: 13:07:07:013> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aabb5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17d03106a4, CP State=Sys Determination

         Line 3961: 13:07:07:020> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfe8aabb5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17d0427878, CP State=Pilot Acquistion

         Line 4265: 13:07:07:380> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17d38d94c0, CP State=Sync Acquistion

         Line 4658: 13:07:07:769> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000000d, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17d71bd2f8, CP State=Timing Change

         Line 4966: 13:07:08:059> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aabe8, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x17d9c40c1c, CP State=Idle

         Line 5140:        , >>> Msg Id=PC - General Page

         Line 5156:        , >>> Msg Id=PC - Neighbor List

         Line 5237:        , >>> Msg Id=PC - System Parameters

         Line 5336:        , >>> Msg Id=PC - Access Parameters

         Line 5371:        , >>> Msg Id=PC - CDMA Channel List

         Line 5407:        , >>> Msg Id=PC - General Page

         Line 5448:        , >>> Msg Id=PC - Extended System Parameters

         Line 5499:        , >>> Msg Id=PC - Neighbor List

         Line 5583:        , >>> Msg Id=PC - System Parameters

         Line 5660:        , >>> Msg Id=PC - Access Parameters

         Line 5690:        , >>> Msg Id=PC - General Page

         Line 5731:        , >>> Msg Id=PC - CDMA Channel List

         Line 6137:        , >>> Msg Id=QPCH - Indicator

         Line 6425:        , >>> Msg Id=QPCH - Indicator

         Line 6711:        , >>> Msg Id=QPCH - Indicator

         Line 6976:        , >>> Msg Id=QPCH - Indicator

         Line 7260:        , >>> Msg Id=QPCH - Indicator

         Line 7536:        , >>> Msg Id=QPCH - Indicator

         Line 7780:        , >>> Msg Id=QPCH - Indicator

         Line 8053:        , >>> Msg Id=QPCH - Indicator

         Line 8321:        , >>> Msg Id=QPCH - Indicator

         Line 8543: 13:07:28:112> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aafd4, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18915c4034, CP State=Update Overhead info

         Line 8640:        , >>> Msg Id=PC - General Page

         Line 8654: 13:07:28:152> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aafd6, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x1891ba88f4, CP State=Registration Attempt

         Line 8695:                 , <<< Msg Id=AC - Registration

         Line 8812:        , >>> Msg Id=PC - Access Parameters

         Line 8974:        , >>> Msg Id=PC - General Page

         Line 9029:        , >>> Msg Id=PC - Access Parameters

         Line 9059:        , >>> Msg Id=PC - CDMA Channel List

         Line 9094:        , >>> Msg Id=PC - Extended System Parameters

         Line 9163:        , >>> Msg Id=PC - General Page

         Line 9177:        , >>> Msg Id=PC - Neighbor List

         Line 9270:        , >>> Msg Id=PC - System Parameters

         Line 9368:        , >>> Msg Id=PC - Access Parameters

         Line 9398:        , >>> Msg Id=PC - CDMA Channel List

         Line 9450:        , >>> Msg Id=PC - General Page

         Line 9511:        , >>> Msg Id=PC - Extended System Parameters

         Line 9555:        , >>> Msg Id=PC - Neighbor List

         Line 9682:        , >>> Msg Id=PC - System Parameters

         Line 9794:        , >>> Msg Id=PC - Access Parameters

         Line 9824:        , >>> Msg Id=PC - General Page

         Line 9866:        , >>> Msg Id=PC - CDMA Channel List

         Line 9897:        , >>> Msg Id=PC - Extended System Parameters

         Line 9941:        , >>> Msg Id=PC - Neighbor List

         Line 10004:      , >>> Msg Id=PC - System Parameters

         Line 10056:      , >>> Msg Id=PC - General Page

         Line 10095:      , >>> Msg Id=PC - Access Parameters

         Line 10180:      , >>> Msg Id=PC - CDMA Channel List

         Line 10211:      , >>> Msg Id=PC - Extended System Parameters

         Line 10255:      , >>> Msg Id=PC - Neighbor List

         Line 10295:      , >>> Msg Id=PC - General Page

         Line 10336:      , >>> Msg Id=PC - System Parameters

         Line 10413:      , >>> Msg Id=PC - Access Parameters

         Line 10468:      , >>> Msg Id=PC - CDMA Channel List

         Line 10512:      , >>> Msg Id=PC - Extended System Parameters

         Line 10556:      , >>> Msg Id=PC - General Page

         Line 10595:      , >>> Msg Id=PC - Neighbor List

         Line 10641:      , >>> Msg Id=PC - System Parameters

         Line 10720:      , >>> Msg Id=PC - Order Message

         Line 10739:      , >>> Msg Id=PC - Order Message            BS ack

         Line 10765: 13:07:28:772> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8aaff5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x189767d0ec, CP State=Idle

         Line 10802: 13:07:28:785> ETS, Id=CP Trace, TraceId=CP CDMA Idle SubState Event, N=0x00000003, SysTime.0=(1x) 0x0dfe8aaff5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x1897854740, Idle subState=CP\_IDLE\_MONITOR, Event=ENG\_IND\_ANTENNA\_RAU\_PREEMPTED

         Line 10803: 13:07:28:785> ETS, Id=CP Trace, TraceId=CP PE\_IDLE\_STATE\_ENTRY\_TRACE\_ID, N=0x00000003, SysTime.0=(1x) 0x0dfe8aaff5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x1897854c58, CurrentCDMAState=Idle, CurrentIdleState=CP\_IDLE\_MONITOR, L1Asleep=No, Event=ENG\_IND\_ANTENNA\_RAU\_PREEMPTED

         Line 10869: 13:07:28:787> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfe8aaff5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x1897891274, CP State=Sys Determination

         Line 11023: 13:07:28:919> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0dfe8aaff5, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x1898c010f8, CP State=Pilot Acquistion

         Line 11273: 13:07:29:359> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x189cc570c4, CP State=Sync Acquistion

         Line 11564: 13:07:29:600> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000000a, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x189efa44cc, CP State=Sys Determination

         Line 11576: 13:07:29:600> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x000000000a, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x189efad568, CP State=Pilot Acquistion

         Line 11857: 13:07:29:792> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18a0bd381c, CP State=Sync Acquistion

         Line 12260: 13:07:30:239> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18a4d57e9c, CP State=Sys Determination

         Line 12272: 13:07:30:239> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000011, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18a4d60f08, CP State=Pilot Acquistion

         Line 12530: 13:07:30:432> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000000, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18a6985d04, CP State=Sync Acquistion

         Line 13104: 13:07:31:049> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(!1x) 0x0000000018, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18ac3e6d24, CP State=Timing Change

         Line 13414: 13:07:31:339> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000003, SysTime.0=(1x) 0x0dfe8ab074, SysTime.1=(!DO) 0x00000049c8, SysTime.2=(32K) 0x18aee67a94, CP State=Idle

         Line 13616:      , >>> Msg Id=PC - General Page

         Line 14083:      , >>> Msg Id=QPCH - Indicator

         Line 14349:      , >>> Msg Id=PC - General Page

         Line 14379:      , >>> Msg Id=PC - Neighbor List

         Line 14661:      , >>> Msg Id=QPCH - Indicator

         Line 14950:      , >>> Msg Id=QPCH - Indicator

         Line 15214:      , >>> Msg Id=QPCH - Indicator

         Line 15501:      , >>> Msg Id=QPCH - Indicator

         Line 15771:      , >>> Msg Id=QPCH - Indicator

         Line 16048:      , >>> Msg Id=QPCH - Indicator

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